

Remarks

Claims 1-10 are pending in the present case and are rejected.

Claim 1 is amended to limit the binder material to soft magnetic binder material.

Claims 3 and 4 are amended to correct the form of the Markush group.

The amendment from the previous amendment regarding claim 5 is represented since it appears that the claim was incorrectly designated as “original.” In this amendment “component” is changed to “carrier.”

1. Amendment to the Specification

Applicants traverse the Examiner’s reversal of Examiner Pianalto’s entry of the amendments to the Specification regarding Figure 5. Clearly, neither Mr. Pianalto nor the Board of Appeals found any difficulty with the proposed amendments to the Specification.

2. Rejection Under 35 U.S.C. § 102

Claims 1-3 and 7-8 are rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Gambino et al. (U.S. Patent No. 6,773,765 B1).

The Applicants object to the Examiner’s new rejection of claims 1-3 and 7-8 which flies in the face of the Board of Patent Appeals, June 16, 2005 decision which states:

Accordingly, as appellants point and contrary to the examiner’s position, the process limitation of claim 1 must be given weight because such limitations characterize the claimed product.

Thus, as appelleants argue, the fact that the claimed component of the claimed motor may have similar generic properties to the

structure prepared from a paste of material in a polymer binder which is substantially magnetized, does not alone constitute evidence that the claimed electric motor and the product of the '858 patent are identical or substantial identical.

Decision on Appeal, June 16, 2005

In the present rejection, the Examiner once again takes a different process (i.e., thermal spraying) and a resin binder and attempts to manipulate it into the present invention. Applicants respectfully request that the Examiner provide evidence that the binders of Gambino can be used in a kinetically sprayed process.

Gambino et al. discloses a method that "includes the step of thermal spraying a first spray stream of composite particles, which include magnetic particles incorporated into or onto a matrix material." (Gambino et al., col. 3, ll. 21-28.) Moreover, Gambino et al. discloses that the matrix materials are "amorphous or crystalline polymers which have a sharp change in viscosity at its glass transition temperature or melting point." (Gambino et al., col. 7, ll. 24-27.)

Although the Examiner downplays the differences between thermal spray and kinetic spray processes, thermal spray methods are fundamentally different than the kinetic spraying technique of the present invention. In the thermal spray techniques a heat source is used to melt a material which is subsequently atomized and then directed to a substrate (see, for example, U.S. Patent No. 6,513,728). Kinetic spray processes do not use such a heat source in this manner. The Specification clearly and unequivocally explains:

[0006] Thermal spray has the advantage of being capable of rapidly producing a layer of bulk material atop a carrier, but the heat needed to create the molten metal droplets can alter the magnetic properties of the sprayed material. Another family of thermal spray technologies that does not use high temperatures for producing molten droplets is collectively known as kinetic spraying. . .

[0007] The invention described herein utilizes the "cold spray" process to produce electric machine elements as "coatings" or deposits on an appropriate substrate or carrier.

Specification, paragraphs 6 and 7

The Examiner continues to ignore the important differences between kinetic spraying and thermal spraying and treats the two processes interchangeably. Moreover, as explained, the droplet formed by thermal spray can alter the magnetic properties of the sprayed material. Clearly, this is undesirable in the present application. Applicants respectfully request that the Examiner provide proof that the polymer binders of Gambino can be used in a kinetically sprayed process.

Notwithstanding the argument set forth above, in order to advance prosecution Applicants amend independent claim 1 to describe the binders as "soft magnetic binder materials." Gambino does not describe using soft magnetic ductile binders as now required by independent claim 1.

Accordingly, claims 1-3 and 7-8 are allowable under 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a) over Gambino et al.

3. Rejection Under 35 U.S.C. § 103

Claims 5-6 and 9-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gambino et al., optionally considering admitted prior art, or Wehde (U.S. Patent No. 3,739,248), or Porrazzo et al. (U.S. Patent No. 6,137,891) for claims 9-10.

Since claims 5-6 and 9-10 depend from claim 1 which is shown to be allowable, these claims are also allowable.

Alternately, claims 1-3 and 5-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gambino et al. as applied in sections 3-4 above, in view of Alkhimov et al.

(U.S. Patent No. 5,304,414) or Van Steenkiste et al. (U. S. Patent No. 6,137,891), optionally considering admitted prior art, or Wehde (U.S. Patent No. 3,739,248), or Porrazzo et al. (U.S. Patent No. 6,137,891) for claims 9-10 as discussed in section 4 above.

The Examiner's attempt to combine Gambino et al. with Alkhimov et al. and Van Steenkiste et al. is misguided for the same reasons set forth above. The Examiner states:

. . . teach kinetics spraying with a suggestion of use for applying mixtures of particles including magnetic, where kinetic spraying is taught to be advantageous over thermal spray type techniques, because of the ability to produce desirable adhesion at lower temperatures that preserve important properties of coating materials

Office Action dated December 12, 2005

The Examiner fails again to consider the type of materials being sprayed. None of the references disclose using permanent magnetic materials and soft magnetic binders together. Again, Applicants respectfully request that the examiner provide proof that the binders of Gambino et al. are amenable to kinetic spray processes. The Examiner's alleged motivation to combine the references is too vague. If the Examiner's contention were true, thermal spray would never be used, yet it is.

Notwithstanding the argument set forth above, in order to advance prosecution Applicants amend independent claim 1 to describe the binders as "soft magnetic binder materials" As amended, none of Gambino et al., Alkhimov et al., Van Steenkiste et al., Wehde, or Porrazzo et al. describe using soft magnetic binder materials as now required by independent claim 1.

Accordingly, 1-3 and 5-10 are allowable under 35 U.S.C. § 103(a) over Gambino et al., in view of Alkhimov et al. or Van Steenkiste et al. , admitted prior art, or Wehde, or Porrazzo et al.

4. Claim Rejections Under 35 U.S.C. 112

Claims 1 and 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants traverse the present rejection under 35 U.S.C. 112, second paragraph. The claims in question have been reviewed by Examiner Pianalto and by the Board of Appeal without this rejection ever being considered. The Examiners states:

Given that the magnetic materials can be iron or nickel or cobalt and that the binder can also be iron or nickel or cobalt, the examiner is unclear how iron particles mixed with iron particles, or the like, can be considered magnetic particles embedded in a binder. As a species of generic classes define their scope is not clear that they have any necessary difference between the generic classes of materials.


To begin with, the Examiner's rejection of claim 1 under 35 U.S.C. §112, second paragraph with respect to claim 1 is completely inappropriate. Claim 1 does not speak of iron, nickel, or cobalt. It appears that the Examiner's claim construction is misguided. It is true consistent with claim 3 that the choices the permanent magnetic material include iron, nickel, and cobalt. It is true that these materials under certain circumstances are possible selections for the permanent magnetic material. Similarly, iron, nickel, and cobalt can also be choices for the soft magnetic binder material. However, claims 3 and 4 depend from claim 1 and not each other. Therefore, the claims as written do not create the situation of having iron particles mixed with iron particles. It is only the Examiner's own construction that created this situation. Moreover, consider for example and iron bracket attached to an iron plate with iron bolts. Clearly, the other terms used to described the particles on the binder must be taken into consideration. Applicants point out that the permanent magnetic materials include other possibilities – samarium-cobalt, aluminum-nickel-cobalt, neodymium-iron-boron, and samarium-iron-nickel.

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Accordingly, for at least this reason, claims 1, 3, and 4 are allowable under 35 U.S.C. §112, second paragraph.

Respectfully submitted,
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